MICHELLE FULLER

Blue Lake Rancheria Environmental Director
(707) 668-5101 x1036 | mfuller@bluelakerancheria-nsn.gov

SKILLS PROFILE

- Strong project and program management skills, including fundraising and reporting.
- Excellent written and oral communication, with analytical expertise.
- Successfully collaborates with diverse stakeholder groups and communities.
- Values rooted in sustainability, equity and justice.
- Interdisciplinary expertise and experience in biology, ecology, environmental policy and social science.
- Strong work ethic including the ability to work independently and manage concurrent projects.
- Dedicated and reliable for professional and volunteer commitments.

EXPERIENCE

Environmental Director, Blue Lake Rancheria 2007 — present

Blue Lake, CA

- Successfully manages department of four people and an annual budget over $400,000.
- Applied to and received funding from US EPA, US Fish & Wildlife Service, Bureau of Indian Affairs, National Park Service, Department of Energy, California Department of Fish & Wildlife, California Air Resources Board, CalEPA, Native American Agriculture Fund, and the Natural Resources Conservation Service.
- Projects range from: governance/policies, water and air quality monitoring, regulatory consultation and advocacy, community education and outreach, watershed restoration projects, and planning and research.
- Represents the Tribe at local, state, and national meetings and conferences, including serving as a Tribal Advisory Committee member for the California Water Plan Updates (2010 and 2018).
- Mentors summer interns in the department and collaborates with college professors and students at Cal Poly Humboldt to further research on tribal land.

Division 5 Director, Humboldt Bay Municipal Water District 2017 — present

Eureka, CA

- Serves on Board of Directors to oversee all aspects of the water district.
- Advocate for sustainable approaches to water management in planning for a changing climate.
- Vocal opponent to projects that pose a threat to water quality and watershed health.

Board President, Mad River Alliance 2012 — 2017

Blue Lake, CA

- Founding Board President helping establish the nonprofit watershed group.
- Established core program areas of: science & monitoring, restoration, education & outreach, and conservation.
- Provided leadership and support in various fundraising efforts.
- Collaborated with agencies, commercial timber companies, farmers, tribes, and other nonprofits to advance our initiatives.

Research Assistant, National Marine Fisheries Service 2002 — 2005

Santa Cruz, CA

- Field work included beach seines in coastal lagoons and estuaries, water quality monitoring, snorkel surveys of coastal streams, as well as midwater trawls and plankton sampling on ocean research cruises.
- Laboratory work included data entry/organization, fish dissections, and otolith analysis. Wrote regular reports summarizing otolith data for my supervisor, Dr. Bruce MacFarlane, and wrote manual on otolith preparation protocol for the Santa Cruz lab.
- Supervised a UCSC student on an independent research project on juvenile Chinook salmon growth in the river habitat using otolith microstructure analysis.

Previous Employment, Various Temporary Positions 2000 — 2005

California (Catalina Island to Humboldt Bay)

- Field Technician at Humboldt Bay National Wildlife Refuge, assisted with botanical surveys and invasive *Spartina* eradication.
- Research Diver/Lab Assistant for various projects: SCUBA collections of fish, mark and recapture studies, and lab dissections (fin clips, DNA samples, stomach removal and preservation, and otolith extraction).
- Internships with Monterey Bay Aquarium, Bodega Marine Laboratory, Coastal Watershed Council and Californians for Alternatives to Toxics.

EDUCATION

M.A. Social Science: Environment & Community, Humboldt State University

Arcata, CA

- Graduate coursework in Water Rights and Water Law, Environmental Impact Assessment, Environmental Policy, Community & Place, Environmental Research Methods, Natural Resource Conflict Resolution, Environmental Justice, and Ecosystems and Society.
- Thesis: *Herding Cats: Grassroots and Centralized Organizing in the Case of California's Fire Safe Councils.*

B.S. Marine Biology, UC Santa Cruz

Santa Cruz, CA

- Conducted a research project for my senior thesis mapping the spatial extent of the invasive alga, *Undaria pinnatifida*, in the Monterey Harbor using SCUBA.
- Research Experience for Undergraduates program: research assistant for Dr. Robin Ross (UCSB) monitoring krill (*Euphasia superba)* and other plankton assemblages off the Antarctic Peninsula.

CONTINUING EDUCATION

- Institute for Tribal Environmental Professionals Courses (2012-2021): Introduction to Air Quality Monitoring, Reviewing Air Quality Permits, Treatment as a State for Air Quality, and Management of Tribal Air Programs.
- Cascadia Leadership Program graduate (2015).
- Professional Certificate in Wetland Delineation from Portland State University (2013).
- River Restoration Professional Certificate, Portland State University (2012). Courses included: Physical Processes of River Restoration, Ecological Processes of River Restoration, Stream Reconnaissance and Assessment Tools, River Restoration Design, and Restoration Project Management.
- Surface Water Ambient Monitoring Program (SWAMP) Bioassessment Field Sampling Training. Arcata, CA (2011).

EPA KEY CONTACTS FORM

OMB Number: 2030-0020
Expiration Date: 06/30/2024

Authorized Representative: *Original awards and amendments will be sent to this individual for review and acceptance, unless otherwise indicated.*

Name: Prefix: | First Name: Jason | Middle Name:
Last Name: Ramos | Suffix:

Title: Tribal Administrator

Complete Address:

Street1: PO Box 428
Street2:
City: Blue Lake | State: CA: California
Zip / Postal Code: 95525 | Country: USA: UNITED STATES

Phone Number: 7076685101 | **Fax Number:** 7076684272

E-mail Address: jramos@bluelakerancheria-nsn.gov

Payee: *Individual authorized to accept payments.*

Name: Prefix: | First Name: Kim | Middle Name:
Last Name: Norton | Suffix:

Title: Finance Manager

Complete Address:

Street1: PO Box 428
Street2:
City: Blue Lake | State: CA: California
Zip / Postal Code: 95525 | Country: USA: UNITED STATES

Phone Number: 7076685101 | **Fax Number:** 7076684272

E-mail Address: mfuller@bluelakerancheria-nsn.gov

Administrative Contact: *Individual from Sponsored Programs Office to contact concerning administrative matters (i.e., indirect cost rate computation, rebudgeting requests etc).*

Name: Prefix: | First Name: Kim | Middle Name:
Last Name: Norton | Suffix:

Title: Finance Manager

Complete Address:

Street1: PO Box 428
Street2:
City: Blue Lake | State: CA: California
Zip / Postal Code: 95525 | Country: USA: UNITED STATES

Phone Number: 7076685101 | **Fax Number:** 7076684272

E-mail Address: mfuller@bluelakerancheria-nsn.gov

EPA KEY CONTACTS FORM

Project Manager: *Individual responsible for the technical completion of the proposed work.*

Name: Prefix: | First Name: Michelle | Middle Name:

Last Name: Fuller | Suffix:

Title: Environmental Director

Complete Address:

Street1: PO Box 428

Street2:

City: Blue Lake | State: CA: California

Zip / Postal Code: 95525 | Country: USA: UNITED STATES

Phone Number: 7076685101 | **Fax Number:** 7076684272

E-mail Address: mfuller@bluelakerancheria-nsn.gov

OMB Number: 2030-0020
Expiration Date: 06/30/2024

Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance

Note: Read Instructions before completing form.

I. A. Applicant/Recipient (Name, Address, City, State, Zip Code)

Name: Blue Lake Rancheria

Address: PO Box 428

City: Blue Lake

State: CA: California Zip Code: 95525

B. DUNS No. 184567634

II. Is the applicant currently receiving EPA Assistance? ☒ Yes ☐ No

III. List all civil rights lawsuits and administrative complaints pending against the applicant/recipient that allege discrimination based on race, color, national origin, sex, age, or disability. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)

None

IV. List all civil rights lawsuits and administrative complaints decided against the applicant/recipient within the last year that allege discrimination based on race, color, national origin, sex, age, or disability and enclose a copy of all decisions. Please describe all corrective actions taken. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)

None

V. List all civil rights compliance reviews of the applicant/recipient conducted by any agency within the last two years and enclose a copy of the review and any decisions, orders, or agreements based on the review. Please describe any corrective action taken. (40 C.F.R. § 7.80(c)(3))

None

VI. Is the applicant requesting EPA assistance for new construction? If no, proceed to VII; if yes, answer (a) and/or (b) below.

☐ Yes ☒ No

a. If the grant is for new construction, will all new facilities or alterations to existing facilities be designed and constructed to be readily accessible to and usable by persons with disabilities? If yes, proceed to VII; if no, proceed to VI(b).

☐ Yes ☐ No

b. If the grant is for new construction and the new facilities or alterations to existing facilities will not be readily accessible to and usable by persons with disabilities, explain how a regulatory exception (40 C.F.R. 7.70) applies.

VII. Does the applicant/recipient provide initial and continuing notice that it does not discriminate on the basis of race, color, national origin, sex, age, or disability in its program or activities? (40 C.F.R 5.140 and 7.95)	☒ Yes	☐ No
a. Do the methods of notice accommodate those with impaired vision or hearing?	☐ Yes	☒ No
b. Is the notice posted in a prominent place in the applicant's offices or facilities or, for education programs and activities, in appropriate periodicals and other written communications?	☒ Yes	☐ No
c. Does the notice identify a designated civil rights coordinator?	☐ Yes	☒ No
VIII. Does the applicant/recipient maintain demographic data on the race, color, national origin, sex, age, or handicap of the population it serves? (40 C.F.R. 7.85(a))	☒ Yes	☐ No
IX. Does the applicant/recipient have a policy/procedure for providing access to services for persons with limited English proficiency? (40 C.F.R. Part 7, E.O. 13166)	☐ Yes	☒ No

X. If the applicant is an education program or activity, or has 15 or more employees, has it designated an employee to coordinate its compliance with 40 C.F.R. Parts 5 and 7? Provide the name, title, position, mailing address, e-mail address, fax number, and telephone number of the designated coordinator.

Anita Huff, Grant Manager, PO Box 428, Blue Lake, CA 95525, ahuff@bluelakerancheria-nsn.gov, 707-668-4272, and 707-668-5101

XI. If the applicant is an education program or activity, or has 15 or more employees, has it adopted grievance procedures that assure the prompt and fair resolution of complaints that allege a violation of 40 C.F.R. Parts 5 and 7? Provide a legal citation or Internet Address for, or a copy of, the procedures.

In Employee Policy Manual

For the Applicant/Recipient

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. I assure that I will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized Official	B. Title of Authorized Official	C. Date
Anita M Huff	Tribal Administrator	03/25/2022

For the U.S. Environmental Protection Agency

I have reviewed the information provided by the applicant/recipient and hereby certify that the applicant/recipient has submitted all preaward compliance information required by 40 C.F.R. Parts 5 and 7; that based on the information submitted, this application satisfies the preaward provisions of 40 C.F.R. Parts 5 and 7; and that the applicant has given assurance that it will fully comply with all applicable civil rights statures and EPA regulations.

A. *Signature of Authorized EPA Official	B. Title of Authorized Official	C. Date

*** See Instructions**

Instructions for EPA FORM 4700-4 (Rev. 06/2014)

General. Recipients of Federal financial assistance from the U.S. Environmental Protection Agency must comply with the following statutes and regulations.
Title VI of the Civil Rights Acts of 1964 provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. The Act goes on to explain that the statute shall not be construed to authorize action with respect to any employment practice of any employer, employment agency, or labor organization (except where the primary objective of the Federal financial assistance is to provide employment). Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act provides that no person in the United States shall on the ground of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under the Federal Water Pollution Control Act, as amended. Employment discrimination on the basis of sex is prohibited in all such programs or activities. Section 504 of the Rehabilitation Act of 1973 provides that no otherwise qualified individual with a disability in the United States shall solely by reason of disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Employment discrimination on the basis of disability is prohibited in all such programs or activities. The Age Discrimination Act of 1975 provides that no person on the basis of age shall be excluded from participation under any program or activity receiving Federal financial assistance. Employment discrimination is not covered. Age discrimination in employment is prohibited by the Age Discrimination in Employment Act administered by the Equal Employment Opportunity Commission. Title IX of the Education Amendments of 1972 provides that no person in the United States on the basis of sex shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance. Employment discrimination on the basis of sex is prohibited in all such education programs or activities. Note: an education program or activity is not limited to only those conducted by a formal institution. 40 C.F.R. Part 5 implements Title IX of the Education Amendments of 1972. 40 C.F.R. Part 7 implements Title VI of the Civil Rights Act of 1964, Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act, and Section 504 of The Rehabilitation Act of 1973. The Executive Order 13166 (E.O. 13166) entitled; "Improving Access to Services for Persons with Limited English Proficiency" requires Federal agencies work to ensure that recipients of Federal financial assistance provide meaningful access to their LEP applicants and beneficiaries.

Items "Applicant" means any entity that files an application or unsolicited proposal or otherwise requests EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Recipient" means any entity, other than applicant, which will actually receive EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Civil rights lawsuits and administrative complaints" means any lawsuit or administrative complaint alleging discrimination on the basis of race, color, national origin, sex, age, or disability pending or decided against the applicant and/or entity which actually benefits from the grant, but excluding employment complaints not covered by 40 C.F.R. Parts 5 and 7. For example, if a city is the named applicant but the grant will actually benefit the Department of Sewage, civil rights lawsuits involving both the city and the Department of Sewage should be listed. "Civil rights compliance review" means any review assessing the applicant's and/or recipient's compliance with laws prohibiting discrimination on the basis of race, color, national origin, sex, age, or disability. Submit this form with the original and required copies of applications, requests for extensions, requests for increase of funds, etc. Updates of information are all that are required after the initial application submission. If any item is not relevant to the project for which assistance is requested, write "NA" for "Not Applicable." In the event applicant is uncertain about how to answer any questions, EPA program officials should be contacted for clarification. * Note: Signature appears in the Approval Section of the EPA Comprehensive Administrative Review For Grants/Cooperative Agreements & Continuation/Supplemental Awards form.

Project Narrative File(s)

*** Mandatory Project Narrative File Filename:** 1240-Project Narrative_BLR Enhanced Community AQ Monit

Add Mandatory Project Narrative File | Delete Mandatory Project Narrative File | View Mandatory Project Narrative File

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File | Delete Optional Project Narrative File | View Optional Project Narrative File

Other Attachment File(s)

*** Mandatory Other Attachment Filename:** 1234-Quality Assurance Statement.pdf

Add Mandatory Other Attachment | Delete Mandatory Other Attachment | View Mandatory Other Attachment

To add more "Other Attachment" attachments, please use the attachment buttons below.

Add Optional Other Attachment | Delete Optional Other Attachment | View Optional Other Attachment

BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 02/28/2022

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Enhanced Community Air Monitoring	66.034	$	$	$ 306,209.00	$	$ 306,209.00
2.						
3.						
4.						
5. Totals		$	$	$ 306,209.00	$	$ 306,209.00

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Prescribed by OMB (Circular A -102) Page 1

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY (1) Enhanced Community Air Monitoring	(2)	(3)	(4)	Total (5)
a. Personnel	$ 36,357.00	$	$	$	$ 36,357.00
b. Fringe Benefits	17,088.00				17,088.00
c. Travel	10,890.00				10,890.00
d. Equipment	0.00				0.00
e. Supplies	48,640.00				48,640.00
f. Contractual	169,290.00				169,290.00
g. Construction	0.00				0.00
h. Other	500.00				500.00
i. Total Direct Charges (sum of 6a-6h)	282,765.00				$ 282,765.00
j. Indirect Charges	23,444.00				$ 23,444.00
k. TOTALS (sum of 6i and 6j)	$ 306,209.00	$	$	$	$ 306,209.00
7. Program Income	$	$	$	$	$

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Prescribed by OMB (Circular A -102) Page 1A

SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8. Enhanced Community Air Monitoring	$	$	$	$
9.				
10.				
11.				
12. TOTAL (sum of lines 8-11)	$	$	$	$

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$	$	$	$	$
14. Non-Federal	$				
15. TOTAL (sum of lines 13 and 14)	$	$	$	$	$

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (YEARS) (b)First	(c) Second	(d) Third	(e) Fourth
16. Enhanced Community Air Monitoring	$	$	$	$
17.				
18.				
19.				
20. TOTAL (sum of lines 16 - 19)	$	$	$	$

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges: 282765

22. Indirect Charges: 23444

23. Remarks: 2022 DOI approved Indirect Cost Rate is 20.66%

OMB Number: 4040-0004
Expiration Date: 12/31/2022

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: 03/25/2022

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: Blue Lake Rancheria

* b. Employer/Taxpayer Identification Number (EIN/TIN): 68-0078113

* c. Organizational DUNS: 1845676340000

d. Address:

* Street1: PO Box 428
Street2:
* City: Blue Lake
County/Parish:
* State: CA: California
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 95525-0428

e. Organizational Unit:

Department Name: Environmental Programs

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:
* First Name: Michelle
Middle Name:
* Last Name: Fuller
Suffix:

Title: Environmental Director

Organizational Affiliation: Blue Lake Rancheria

* Telephone Number: 7076685101
Fax Number: 7076684272

* Email: mfuller@bluelakerancheria-nsn.gov

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

I: Indian/Native American Tribal Government (Federally Recognized)

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Environmental Protection Agency

11. Catalog of Federal Domestic Assistance Number:

66.034

CFDA Title:

Surveys, Studies, Research, Investigations, Demonstrations, and Special Purpose Activities Relating to the Clean Air Act

*** 12. Funding Opportunity Number:**

EPA-OAR-OAQPS-22-01

* Title:

Enhanced Air Quality Monitoring for Communities

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Blue Lake Rancheria's Enhanced Community Air Quality Monitoring Project

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: 02 * b. Program/Project: 02

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 11/01/2022 * b. End Date: 10/30/2025

18. Estimated Funding ($):

* a. Federal	306,209.00
* b. Applicant	0.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	306,209.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name: Jason

Middle Name:

* Last Name: Ramos

Suffix:

* Title: Tribal Administrator

* Telephone Number: 7076685101 Fax Number:

* Email: jramos@bluelakerancheria-nsn.gov

* Signature of Authorized Representative: Anita M Huff * Date Signed: 03/25/2022

Schatz Energy Research Center

US Environmental Protection Agency
Office of Air and Radiation 6101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

March 21, 2022

Re: Blue Lake Rancheria's Enhanced Community Air Quality Monitoring Proposal

To Whom It May Concern:

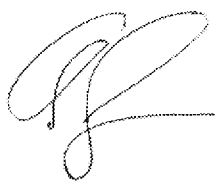
I am writing in support of the Blue Lake Rancheria's proposal for funding under the US EPA's Enhanced Air Quality Monitoring for Communities program. We have collaborated with the Blue Lake Rancheria (BLR) as a project partner on multiple projects over the past decade, including the SAFE project (Smoke, Air, Fire, Energy in Rural California) which was launched in 2020. As the BLR Environmental Programs Department develops capacity and expands on their ambient air quality monitoring for pollutants of concern, we will continue to strengthen our partnership to protect and support tribal communities in our area.

We have submitted a separate proposal naming BLR as a sub-recipient and community partner for a separate set of tasks that will further enhance the broader community's understanding of air quality monitoring around wildfire events. Data gathered through BLR's Enhanced Community Air Quality Monitoring Project, though separate, will be helpful in understanding what additional pollutants or toxins the community may be exposed to, and to build capacity for BLR's technical staff.

The Blue Lake Rancheria has been successfully collecting quality-assured environmental data since 2005 and has developed strong relationships with resource management agencies, non-profits, and Cal Poly Humboldt. As we are able to build and support the network of tribes engaged in air quality monitoring, the region will benefit from enhanced data and knowledge.

I encourage the US EPA to fund this proposal in the full amount requested. If you have any questions, please contact myself or Nicholas Lam (nll5@humboldt.edu).

Sincerely,



Arne Jacobson
Director, Schatz Energy Research Center

Quality Assurance Statement

Blue Lake Rancheria's Enhanced Community Air Quality Monitoring Project

Data Quality Objectives for the Proposed Work: Our proposed work will meet a broad range of EPA's program objectives, such as those to, "enable communities to monitor their own air quality and to promote monitoring partnerships" and to build community capacity to better understand real-time, baseline conditions. Data need to be of sufficient quality to detect trends, to measure sudden changes in air quality and meteorology, to compare community and regional conditions, and to enhance the spatial resolution of data collected via traditional, regulatory-grade monitors. To ensure quality data collection, work needs to support Quality Assurance (QA) activities such as data collection planning, and Quality Control (QC) actions such as equipment calibration. We outline our organizational approach to QA/QC, highlight criteria and processes to determine whether collected data are acceptable, our plan to prepare a Quality Assurance Project Plan (QAPP), and our proposed Quality Assurance Officer (QAO) to oversee QA/QC activities. In addition, the proposed work includes plans to leverage use of lower-cost air sensors. Sensors pose unique QA/QC process considerations.

Approach for Conducting QA - Data and Measurement Quality Objectives: To ensure quantitative accuracy of field measurements, measurement performance criteria will be established as part of the monitoring design. These criteria specify the data quality needed to minimize decision errors based on the data. Data quality is defined in terms of the degree of precision, accuracy, representativeness, comparability, and completeness needed for the monitoring. We will set DQOs that meet project QA goals. As this work would extend and enhance measurements being made as part of a California Air Resources Board (ARB) AB 617 grant, the DQOs set for the grant will be the starting point.

Criteria and Processes Used to Determine Acceptable Data Quality: All data produced by instruments are initially considered **Level 0**. Data undergo basic automatic QC and are displayed to project staff in real time. Automated screening checks are helpful to focus the analyst's efforts on the data that need the most attention. All data above notification threshold levels are flagged as suspect for review and verification. Screening criteria (e.g., range, rates of change) will be refined during the project based on observations and instrument performance.

We plan to use a contractor's system to automatically quality-control data, detect outliers and problems, generate reports, and create alerts. The auto-screening capabilities of the system will be used for continuous examination of data quality. After this routine data review is complete, data are considered **Level 1.0**.

A non-public field operations website will be used for daily graphical review of the data. Common data problems include flat signal/constant values, no signal/missing data, extremely noisy signal, rapid changes (spikes or dips), and negative concentrations. An initial review, typically of a three-to-five-day running time-series plot of selected parameters for each instrument, allows the analyst to see common problems and verify instruments are operational. If it appears that an instrument is not

operating, or the data are missing, the field operator will be notified and further investigation and corrective action, if needed, will be taken.

In addition to auto-screening and daily visual checks, data will be subjected to more in-depth review on a quarterly basis (e.g., statistical summaries and checks, comparison to typical urban concentrations) and when data fail screening. The data reviewer will also assess whether the pollutant concentrations are reasonable with respect to the time of day, season, meteorology, and concentrations expected and observed during the project. These data are considered Level 2.0.

QA/QC Procedures for Low-Cost Sensors: To enhance the spatial and temporal coverage of measurements, low-cost sensors will be used to identify if community concentrations exceed typical background concentrations. This information will be obtained throughout the communities near facilities of interest (e.g., industrial operations, major roadways) and can indicate a potential release from a facility. Augmenting low-cost sensors to networks with high-grade instruments is an excellent method to provide robust spatial coverage in a cost-effective manner. However, data from these low-cost sensors will not be used for alerting or any health-related decisions. Given that the low-cost sensors are not as accurate as other instruments, we will conduct inter-comparison studies to identify and correct for any sensor bias following current best practices. Calibration equations are developed for each sensor either by the sensor manufacturer or by the project data analysts (depending on which sensors are selected for the project).

QAPP Preparation: We will efficiently develop a QAPP that follows the appropriate EPA guidelines.[1] A QAPP outlines standard operating procedures (SOPs) and QA/QC protocols. We will leverage QAPPs developed by the contractor for other community-based programs and the QAPP prepared for the AB 617 grant project.

Proposed Quality Assurance Officer (QAO): We plan to work with an experienced contractor who will have an appropriate subject matter expert to serve as the project QAO. QA/QC project staff will periodically report findings to the QAO who will have project authority to deploy staff resources needed to address QA/QC issues.

[1] U.S. EPA (2002) Guidance for Quality Assurance Project Plans. EPA/240/R-02/009. Available at https://www.epa.gov/sites/production/files/2015-06/documents/g5-final.pdf.

Sylvia van Royen

(415) 654 7340 • sylvia.vanroyen25@gmail.com • www.linkedin.com/in/sylvia-van-royen

EDUCATION

Humboldt State University; Arcata, CA
Bachelor of Science in Environmental Science & Management (concentration in Ecological Restoration)
Minor: Geospatial Information Sciences **2019**

- Graduated with honors (3.6 GPA)
- Awarded HSU Presidential Scholar Spring 2018, HSU Dean's List Fall 2018, Spring
- Xi Sigma Pi National Forestry Honors Society

Terra Linda High School; San Rafael, CA
High School Diploma **2014**

PROFESSIONAL EXPERIENCE

Forestry Technician, Blair Forestry Consulting; McKinleyville, CA
December 2021-present

· Flag timber harvest units' boundaries, roads, watercourse protection zones, and equipment exclusion zones
· Field reconnaissance on potential units and existing stream crossings recording notes and preparing a post-recon map.
· Digitize historic treatment maps, create maps for field and application use
· Prepare applications for conversions, exemptions, and burn permits

Forestry/Hydrology Technician, Redwood National & State Parks; Orick, CA
September-December 2021

· Timber cruise, mark and assist in planning and marking unit layout including riparian flagging
· Take discharge measurements using a FlowTracker 2, manage and prepare data for analysis in Aquarius
· Create maps as needed for field use, consult on creation of Collector maps and data collection layers

Consulting Utility Forester, ACRT Pacific; Eureka, CA
May-September 2021

· Navigate to new circuits throughout Humboldt County utilizing offline Collector maps, hike into private property and locate utility lines
· Prescribe trims and cuts to trees and vegetation within PG&E's Right of Way
· Utilize and maintain Collector and Survey123 to record prescription data for individual trees within PG&E Right of Way
· Work independently, managing a daily schedule and quota

GIS Contract Work for Salmon River Restoration Council's Community Wildfire Protection Program; remote
February 2021-March 2021

· Write estimate for cost of services, communicate with client on scope of work
· Locate, download, and merge new fireline data into existing dataset
· Create fire history map for Area of Interest, with acreage summaries by ignition type
· Create treatment priority layer from table of treatment priorities for hazardous fuels reduction activities

GIS/GPS Technician III, Karuk Tribe Department of Natural Resources; Orleans, CA
September 2019 – March 2021

· Provide GIS-related training to field crew with self-developed training materials
· Assist in management of field data for all DNR field crews (Fire, Wildlife, Forestry)
· Generate maps for field, planning, and outreach use and create digital collection tools (Collector, Field Maps, Survey 123)
· Initiate, design, and oversee implementation of GIS Division Sustainability Plan; provide administrative support for GIS Division
· Assist with invasive blackberry monitoring project: write literature review, monitoring protocol, set up long-term monitoring plots in the field, collect flora list and percent cover for all plots, assist with report-writing

Natural Resources Technician III, Karuk Tribe Department of Natural Resources; Orleans, CA
July 2019 - September 2019

· Supervise and lead Orleans Youth Crew in brush crew work throughout large project areas (under the Fire & Fuels Program)
· Supervised workforce training and resume writing workshops for the Orleans Youth Crew
· Digitized physical files to increase efficiency; designed and implemented an entire digital file management system to organize individual crew portfolios

VOLUNTEER WORK & RELATED EXPERIENCE

Volunteer, Arcata Marsh Interpretive Center; Arcata, CA
August 2018 – December 2018

· Open center on weekends; interact with public to provide information on marsh ecosystem and local recreation opportunities

Archive Intern, Northcoast Environmental Center; Arcata, CA
January 2017-March 2018

· Digitize hard copies of EcoNews and provide any needed office support.

SKILLS

- Professional, independent, communicative
- Research and synthesize information into reports for peers, laymen, and the general public
- Knowledgeable of protocols for handling confidential and privileged information
- Schedule, moderate, and note-take large meetings, in-person and digitally
- Create presentations for general public, provide presentations in-person and digitally
- Long-term division planning
- Comfortable and trained in driving federal vehicles long distances
- Management of field data (GIS, forestry, hydrology)
- Navigate to established plots in the field using topographic maps, establish and document new plots
- Utilize and maintain regular and large-format printer/copiers
- ArcMap/Pro, Collector, Survey123, QGIS, Avenza; GPS; Photoshop and CS Illustrator

REFERENCES

- **Jason Teraoka**, Forester, Redwood National Park
  - (707) 465-7783
- **Graham McGibbon**, ISA Certified Arborist, ACRT Pacific
  - (707) 312-3441
- **Heather Rickard**, K-12 Environmental Education Division Coordinator, Pikyav Institute at Karuk Tribe Dept. of Natural Resources
  - (530) 710-3308
- **Earl Crosby**, Deputy Director of Watershed Branch, Karuk Tribe Dept. of Natural Resources
  - (530) 627-3446

Enhanced Air Quality Monitoring for Communities Project Narrative Cover Sheet

US Environmental Protection Agency 2022 Funding Opportunity EPA-OAR-OAQPS-22-01

Project Title: Blue Lake Rancheria's Enhanced Community Air Quality Monitoring Project

Applicant Information:

Organization: Blue Lake Rancheria

Address: PO Box 428, Blue Lake, CA 95525

Primary Contact: Michelle Fuller, (707)668-5101, MFuller@bluelakerancheria-nsn.gov

DUNS number: 184567643

Set-Aside: Tribal Set-Aside

Brief Description of Applicant Organization: The Blue Lake Rancheria is a small federally-recognized Native American Tribe in Northern California (listed in the Federal Register, Vol. 86, No. 18, p. 7555). Blue Lake Rancheria Tribe's Environmental Programs Department was formed in 1998 and has successfully completed over 2.5 million dollars in grant-funded projects on topics ranging from air quality to water quality to solid waste to governance and ordinance development.

Project Partners: Blue Lake Rancheria Tribal Education Agency, Blue Lake Rancheria Tribal Library

Project Location: Blue Lake Rancheria, Humboldt County, California

Air Pollutant Scope: particulate matter, air toxins

Budget Summary:

EPA Funding Requested	Total Project Costs
$306,209	$306,209

Project Period: November 2022- October 2025

Short Project Description: The Blue Lake Rancheria's Environmental Programs Department and partners seek to contract with an experienced consultant to build capacity of tribal environmental staff to conduct air quality monitoring; to deploy equipment to collect quality-assured data on pollutants of concern for the community; and to engage the community through partnerships and a new library loan program of air quality sensors.

Workplan

Blue Lake Rancheria Enhanced Community Air Monitoring Project

Section 1: Project Summary and Approach

Overall Project

The Blue Lake Rancheria is a small federally-recognized Native American Tribe in Northern California (listed in the Federal Register, Vol. 86, No. 18, p. 7555). Tribal membership is 54 members, with approximately 210 residents living on tribal lands. Additionally, as many as 1,000 people visit the Rancheria each day for their economic enterprises. The Rancheria holds approximately 100 acres in trust status adjacent to the City of Blue Lake (population 1,000) and the Baduwa't/Mad River. The Blue Lake Rancheria has been an active voice for environmental protection in our community, specific to air quality we have a history of actively pushing a local stationary source for adequate pollution controls and engaging the community to stand together against pollution.

Blue Lake Rancheria Tribe's Environmental Programs Department was formed in 1998 and has successfully completed over 2.5 million dollars in grant-funded projects on topics ranging from air quality to water quality to solid waste to governance and ordinance development. The Blue Lake Rancheria was recognized by The White House as a Climate Action Champion for our efforts on sustainability and resilience, and have received awards from the US EPA for our green energy leadership and waste reduction efforts.

The area in and around the Blue Lake Rancheria is mountainous with coastal weather influences and microclimates (Figure 1). The area is also frequently impacted by smoke from wildfires in California and the Pacific Northwest. Currently, the nearest regulatory particulate matter ($PM_{2.5}$) monitors are in Redding (approximately 87 miles southeast) and at the base of Mt. Shasta (approximately 92 miles northeast). The closest temporary regulatory $PM_{2.5}$ monitor is at the coast in Eureka (approximately 10 miles southwest). Because of the complex terrain and sub-regional weather patterns, air quality can be highly variable throughout the area.

In the Blue Lake Rancheria region, local industrial sources may contribute to air pollution- including particulate matter and air toxics metals concentrations, like emissions from the nearby City Of Blue Lake industrial park, Mad River gravel mining operations, a seasonal asphalt batch plant, a concrete and roofing material recycler, and several trucking yards. Diesel particulate matter (DPM) is also of concern, since the community is adjacent to highway 299, the third longest state highway in California. These stationary and mobile source emissions, as well as other local sources, may also contribute to disproportionately high $PM_{2.5}$ concentrations in the community. Additionally, wood smoke is of concern as it is a primary fuel used to heat homes, and the valley topography of the region intensifies air pollution emission issues in the area with persistent, multi-day inversion layers trapping pollutants.

Staff Training & Capacity Building

The Blue Lake Rancheria's Environmental Programs Department has been steadily building capacity to monitor air quality and engage the community in air quality issues for the past several years. We were able to utilize our EPA Indian General Assistance Program (GAP) funding to complete an Emissions Inventory and conduct some community air quality monitoring utilizing low cost sensors, and we are

currently working on projects funded through the California Air Resources Board to establish a federal equivalent method particulate matter monitor and collocated meteorological station.

To build and expand upon this work and strengthen the capacity of the Tribe to study and protect its air quality, we are proposing to send our Air Quality Technician to additional training. The Institute for Tribal Environmental Professionals' Tribal Air Monitoring Support Center offers excellent training courses specific to tribal air quality monitoring. We are applying for funding for travel, accommodations, and per diem for our Air Quality Technician to attend the following training classes: Addressing Air Quality in Indian Country, Quality Assurance Fundamentals, Quality Assurance Project Plan, and Air Quality System Database Fundamentals. We are also requesting funding for our Air Quality Technician to attend the annual EPA Region 9 Tribal Conferences and annual National Tribal Forum on Air Quality Conferences. These conferences offer valuable case studies, technical information, and networking with other tribal environmental professionals to further capacity building. After our monitoring program has begun we will submit a proposal to share information about our project through a presentation to at least one of these conferences.

PM Monitoring

We plan to monitor for $PM_{2.5}$ and PM_{10} for 1 year with a Teledyne T640 FEM. This instrument does not need a climate-controlled shelter, is relatively easy to use, and has existing standard operating procedure (SOP) and training materials. We have purchased this equipment through a California Air Resources Board (CARB) technical grant and feel it is important to continue our dataset along with collecting new pollutant data. We will work with a contractor to prepare a Quality Assurance Project Plan, on data analysis and reporting, and for operational support as needed for the timeline of this project. The T640, with proper maintenance, should have a lifetime of approximately ten years or more, and will provide the community with the capacity to provide long-term, high-quality measurements of PM. We are in the process of setting up a meteorological monitoring station collocated with the T640 instrument to collect wind speed, direction, temperature, and relative humidity data, also through our CARB grant. If we are able to extend our monitoring timeframe with this funding opportunity, tribal staff will review the data on a weekly basis to ensure high data capture and high-quality measurements. We will have a good understanding of the annual staff and consumables needed to continue this monitoring program and will be seeking funding from the Tribe and other sources to continue this monitoring after the grant.
Data will be sent in real-time via cellular communications to a central data repository set up by the contractor and will be reviewed by an analyst daily to ensure proper instrument operation, with a focus on the T640. Data will be automatically quality controlled via routine checks such as stuck values (indicating a possible instrument problem) with an automated system that will alert analysts when there are issues in the data stream.

Black carbon air monitoring for Diesel Particulate Matter(DPM) and wood smoke

Wood smoke and Diesel Particulate Matter (DPM) are large sources of pollution in the community because the community is adjacent to a busy truck corridor and wood is one of the primary home heating fuels. In the wintertime, inversion layers frequently occur trapping pollution from these sources, sometimes for multiple days. In addition to being a source of $PM_{2.5}$, wood smoke and diesel emissions can include hazardous air pollutants (HAPs). In order to develop community-led mitigation measures to reduce pollution, ambient measurements of wood smoke and DPM are needed to better quantify their impacts. We propose to deploy a Magee Scientific TCA08 total carbon analyzer and AE33

to quantify black carbon, a surrogate for DPM, and total carbon concentrations for two years. With the AE33, aerosol absorption is measured at multiple wavelengths, including black carbon at 880 nm. With measurements also in the UV spectrum, the AE33 can provide measurements of the fraction of black carbon from DPM and wood smoke (references below). We will use the measurements of total carbon, DPM and wood smoke black carbon to quantify the impact of diesel and wood smoke emissions in the community, and thus develop a mitigation strategy for $PM_{2.5}$ based on these results. The AE33/TCA08 will be deployed in a temperature-controlled shelter adjacent to the T640 and meteorological measurements. Data will be reviewed weekly. Analyses will include:

- Quantification of total carbon, DPM and wood smoke carbon as a fraction of $PM_{2.5}$, including the relative contributions when $PM_{2.5}$ concentrations are highest
- Wind direction analyses such as pollution roses
- Day-of-week and diurnal plots by season, to identify whether the relative importance of these sources changes seasonally, on weekdays vs weekends, etc.

Data will be summarized in a technical report with the T640 and meteorological data.

Filter Samples for Toxic Metals

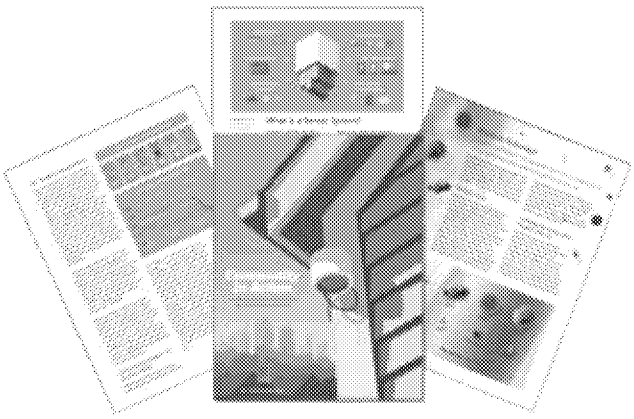
Blue Lake Rancheria is located less than one mile from the City of Blue Lake industrial park where Blue Lake Power (a biomass burning facility), gravel mining and sorting, Calgon Carbon, and an asphalt batch plant have functioned in the past. Some of these activities are known to produce metals that are listed as toxic compounds by the U.S. EPA. For example, according to the CARB emissions inventory, from 2010-2015 Blue Lake Power was emitting toxic substances, including hexavalent chromium and nickel into the air.

Due to a variety of factors included economic slowdown from Covid and changing of tenants at the industrial park (new tenants to be determined), typical industrial activity in the area have temporarily halted, providing an opportunity to determine a baseline measurement of metals concentrations in the area.

To assess baseline metals concentrations, we propose 1 year of 24-hr filter measurements performed on a 1-in-3-day sample schedule. The filters will be sent to a laboratory for metals analysis via XRF (using EPA methodology, e.g. from Research Triangle Institute or similar laboratory). A Partisol 2025i will be deployed to collect samples onto 47 mm Teflon filters for preservation, after which the sample filters will be transported to a laboratory for chemical speciation analysis. We will use the one year of measurements to determine an annual average baseline of metals concentrations in the community before local industrial operations renew, and anticipate collecting additional data after operations begin as part of future work.

Library Loan Program Sensor Training and Outreach

To maximize community engagement, we will partner with the BLR Tribal Library and Tribal Education Agency to bring in an experienced consultant to conduct in-person training on low-cost sensors through a library loan program and community meeting. We will leverage materials developed in the U.S. EPA for a library loan program, and Kids Making Sense kits purchased through a previous grant program.



Kids Making Sense® (KMS) is an educational program that teaches participants how to measure air pollution using low-cost air quality sensors, interpret the data they collect, and take action to reduce emissions and exposure to air pollution. The KMS program helps participants understand how their daily routines and actions can impact emissions and air quality at a time when they are developing life-long habits.

The library loan documents will include training material, information for those who check out the sensors (such as a quick start guide), and activities to undertake with the sensor. Additional training may be incorporated based on community input to cover how the sensors work, best practices in siting the sensors, quality assurance, and data interpretation. For the loan program, we propose to purchase 8 AirBeam3 handheld PM sensors and paired phones. Librarian training will be offered to public librarians in the region to collaborate with BLR Tribal Library as the central hub. Training will cover each air quality lesson's material, Air Quality 101, and how to work with and troubleshoot technology. Material will be provided in hard-copy and electronic form.

Project Significance

The project will provide the community with ongoing PM air monitoring with a federal equivalent method to measure seasonal impacts from various sources and strengthen our regional network of air quality monitoring; new data collection on black carbon pollution and other air toxics; educational materials about air quality in the region and how to reduce health impacts; and extensive capacity building. The Blue Lake Rancheria has been impacted for years from off-reservation pollution sources, from commercial timber operations and associated mill activities, to an industrial park located one mile from BLR upstream in the valley and multiple industrial sources less than five miles downstream as well. Because the wind changes direction seasonally, the Tribe has been impacted from both directions. In recent years the most serious impacts have been due to increasing wildfire frequency and intensity, where the Tribe's Environmental Programs staff have installed low cost sensors to alert the community about days where the air quality is bad enough to recommend limited activities and outdoor exposure.

The Blue Lake Rancheria community is located in rural Humboldt County, California with six other tribal communities in our region. Native Americans are disproportionately affected by poor air quality and our community engagement work intends to extend the reach of this project to the region with educational materials and instruction through our Library Loan Program and existing Tribal Education Agency air quality curriculum programs. Air quality monitoring data, including PM and other air toxins, will provide valuable information to the potential impacts to the community and how to mitigate exposure.

This project will provide needed air quality data to the community in order to make informed decisions about community health and safety, offer community engagement and education on important air quality topics, and build capacity for tribal-led community air quality programs.

Section 2: Community Involvement

Community Partnerships

The Blue Lake Rancheria's Environmental Programs Department is resurrecting our Community Air Quality Committee utilized in previous EPA grants to organize our partnership meetings, and involve the community in air quality monitoring decision making and communication. The Community Air Quality Committee will meet quarterly to discuss the overall project plan, progress, community concerns, and key data findings. We are continuing a partnership with the Tribal Education Agency and pleased to include the Tribal Library as a new partner to ensure and expand community involvement and engagement.

We have been partnering with the Tribal Education Agency (TEA) on air quality projects for two years now and this project will allow us to continue that work and leverage the community relationships and pathways developed through previous work. The TEA has been implementing air quality curriculum in regional schools in underserved communities and data collected in this project will be incorporated into these lessons. TEA staff will bring feedback from their work in the community to the Community Air Quality Committee meetings. TEA partners will receive training in the Library Loan Program to be able to continue supporting that program after the grant period ends.

The Tribal Library is joining our Community Air Quality Committee to help initiate our Library Loan Program and share our air quality monitoring information with the community. The Blue Lake Rancheria Tribal Library is a community hub for tribal and non-tribal community members, and maintains connections with other regional libraries to expand the reach of services offered. The Tribal Library will offer a central physical location where the community can engage with air quality data and directly use a sensor if desired. The Librarian will receive training in the sensor loan program, invite other regional librarians to participate in the program, and potentially be able to continue the program after the grant period. Other community members will be invited to join the committee at the start of the grant to provide input, share concerns, and help us develop effective communication strategies about this program.

Community Engagement

During the first quarter of the project, Blue Lake Rancheria's Environmental Programs Department will reinstate a Community Air Quality Committee previous formed under another grant program. Outreach will be performed to invite new community members to join and participate, and then quarterly meetings will occur to discuss air quality issues, our monitoring program design and data collection progress, and to communicate air quality information to the broader community.

Under past EPA grant projects and our California Air Resources Board Community Air grant we have partnered with the Tribal Education Agency and/or utilized our Community Air Quality Committee to successfully reach a much broader community than working alone.

Section 3: Environmental Justice and Underserved Communities

This project will serve the Blue Lake Rancheria, a Native American community (priority population), and extend to much of northern Humboldt County through partnerships with the Tribal Education Agency and Tribal Library programs. Humboldt County has one of the highest Native American populations per

capita in the state, and contains many low income priority populations as well. Approximately 30% of the Blue Lake Rancheria population is elderly (tribal census data), and many live with health conditions exacerbated by bad air quality events. Indigenous people have higher rates of many diseases linked to air pollution exposure; like asthma, diabetes, heart disease, and chronic obstructive pulmonary disorder.

The Blue Lake Rancheria Tribe (Tribe), like most Indigenous people and lands, has been impacted by land use and natural resource decisions taken out of their hands. The Tribe has a history of being impacted by off-reservation industrial activities, and fighting for environmental and human health protection. The Tribe has fought a polluting biomass facility in a nearby biomass facility for years, formed a community air quality committee, and engaged the community through a California Air Resources Board education grant. The Tribe seeks to learn more about baseline air quality conditions and potential impacts from various sources including the new frequency of wildfire events.

Section 4: Environmental Results- Outputs, Outcomes, and Performance Measures

Expected Project Outputs and Outcomes

The data collected in this project is critical for the Blue Lake Rancheria tribal community to understand current air quality conditions and potential health impacts. The Tribe strives to ensure clean and healthy air, both indoor and ambient/outdoor, for the community as part of the overall goal to protect human health and the environment.

Expected outputs from BLR's Enhanced Community Air Quality Monitoring Project include: deployment of equipment to conduct air quality monitoring in an underserved community; increased air quality data availability for tribal community and the region; identification and assessment of specific pollutants in Blue Lake Rancheria air quality; and strengthening of community partnerships and community involvement in air quality monitoring and information sharing.

Expected outcomes from the project include: problem identification; increased community awareness and involvement in air quality issues; increased access to information and tools that increase understanding and reduction of environmental and human health risks; and potentially community action to mitigate certain air pollutant(s).

Performance Measures and Plan

Blue Lake Rancheria's Environmental Director will serve as the Project Manager to oversee project progress and adherence to the project description and administrative policies. Performance measures will include: tracking and reporting project progress on selection of contractor, overseeing contractor and establishing project schedule to stay on track; tracking and reporting on expenditures compared to budget; tracking progress and reporting on staff capacity building; tracking, measuring, and reporting monitoring accomplishments and milestones; and tracking, measuring, and reporting community partnership and engagement accomplishments and milestones.

Timeline and Milestones

The three year project timeline will allow adequate time for procuring technical assistance, developing capacity in our AQ Technician, creating necessary quality assurance plans, operating the monitoring equipment for a strong continuous data set, and implementing our community engagement activities.

Grant Quarter	Tasks	Milestones
Q1 (Jan-Mar 2023*)	1. Schedule Training for AQ Technician 2. Solicit technical assistance through Request for Proposal following BLR Procurement Policy. 3. Convene Community Air Quality Committee 4. Quarterly reporting on project progress and expenditures.	1. Training certificates included in quarterly report. 2. Copy of RFP included in quarterly report. 3. Copy of Community Air Quality Committee purpsose, membership and meeting minutes in quarterly report. 4. Timely submittal of quarterly report to EPA Project Officer.
Q2 (Apr-Jun 2023*)	1. Secure contract for technical assistance. 2. Develop schedule for QAPP and SOP development, on-site monitor training and deployment. 3. Continue training and capacity-building for AQ Technician. 4. 1 Community Air Quality Committee Meeting. 5. Quarterly Reporting on project progress and expenditures.	1. Copy of contract included in quarterly report. 2. Project schedule details shared in quarterly report. 3. Training certificates included in quarterly report. 4. Committee meeting minutes included with quarterly report. 5. Timely submittal of quarterly report to EPA Project Officer.
Q3 (July-Sept 2023*)	1. Develop SOPs and QAPP 2. Hold Library Loan Program Training and Community Meeting. 3. Continue training and capacity-building for AQ Technician. 4. 1 Community Air Quality Committee Meeting. 5. Quarterly reporting on project progress and expenditures.	1. Copies of SOPs and QAPP developed for project. 2. Details of Library Loan Program training and community meeting shared in quarterly report. 3. Training certificates included with quarterly report. 4. Committee meeting minutes included with quarterly report. 5. Timely submission of quarterly report to EPA Project Officer.
Q4 (Oct – Dec 2023*)	1. Initiate 12-month data collection with filter and aethalometer. 2. Continue Library Loan Program. 3. 1 Community Air Quality Committee Meeting 4. Attend Annual EPA Region 9 Tribal Conference. 5. Quarterly reporting on project progress and expenditures.	1. Photo documentation and report on progress as new data collection effort starts. 2. Details of Library Loan Program activity in quarterly report. 3. Committee meeting minutes included with quarterly report. 4. Report on conference sessions attended and key learnings. 5. Timely submission of quarterly report to EPA Project Officer.
Q5 (Jan- Mar 2024*)	1. Continue quality-assured data collection and maintenance of filter sampler and aethalometer.	1. Progress report on data collection in quarterly report.

	2. Continue Library Loan Program. 3. 1 Community Air Quality Committee Meeting. 4. Quarterly reporting on project progress and expenditures.	2. Details of Library Loan Program activity in quarterly report. 3. Committee meeting minutes included with quarterly report. 4. Timely submission of quarterly report to EPA Project Officer.
Q6 (Apr – Jun 2024*)	1. Continue quality-assured data collection and maintenance of filter sample and aethalometer. 2. Continue Library Loan Program. 3. 1 Community Air Quality Committee Meeting. 4. Quarterly reporting on project progress and expenditures.	1. Progress report on data collection in quarterly report. 2. Details of Library Loan Program activity in quarterly report. 3. Committee meeting minutes included with quarterly report. 4. Timely submission of quarterly report to EPA Project Officer.
Q7 (July – Sept 2024*)	1. Continue quality-assured data collection and maintenance of filter sampler and aethalometer. 2. Continue Library Loan Program. 3. 1 Community Air Quality Committee Meeting. 4. AQ Technician will attend National Tribal Forum on Air Quality. 5. Quarterly Reporting on project progress and expenditures.	1. Progress report on data collection in quarterly report. 2. Details of Library Loan Program activity in quarterly report. 3. Committee meeting minutes included with quarterly report. 4. Report on conference sessions attended and key learnings included in quarterly report. 5. Timely submission of quarterly report to EPA Project Officer.
Q8 (Oct- Dec 2024*)	1. Final data analysis and reporting on air toxics (filter sampler) and aethalometer. 2. Operate and maintain T640 FEM particulate matter monitor and collocated meterological station. 3. Continue Library Loan Program. 4. Attend Annual EPA Region 9 Tribal Conference and propose to present on BLR's air quality monitoring program. 5. 1 Community Air Quality Committee Meeting. 6. Quarterly Reporting on project progress and expenditures.	1. Report on 12-months of data collected and key findings shared with community and EPA. 2. Progress report on PM data collection in quarterly report. 3. Details of Library Loan Program activity included in quarterly report. 4. Report on conference sessions attended, key learnings, and copy of BLR presentation included in quarterly report. 5. Committee meeting minutes included in quarterly report.
Q9 (Jan – Mar 2025*)	1. Operate and maintain T640 FEM particulate matter monitor and collocated meteorological station. 2. Continue Library Loan Program. 3. 1 Community Air Quality Committee Meeting. 4. Quarterly reporting on project progress and expenditures.	1. Progress report on PM data collection in quarterly report. 2. Details of Library Loan Program activity in quarterly report. 3. Committee meeting minutes included in quarterly report. 4. Timely submission of quarterly report to EPA Project Officer.
Q10 (Apr – June 2025*)	1. Operate and maintain T640 FEM particulate matter monitor and collocated meteorological station. 2. Continue Library Loan Program. 3. 1 Community Air Quality Meeting. 4. Quarterly reporting on project progress and expenditures.	1. Progress report on PM data collection in quarterly report. 2. Details of Library Loan Program activity in quarterly report. 3. Committee meeting minutes included in quarterly report.

		4. Timely submission of quarterly report to EPA Project Officer.
Q11 (July – Sept 2025*)	1. Operate and maintain T640 FEM particulate matter monitor and collocated meteorological station. 2. Continue Library Loan Program. 3. Attend National Tribal Forum on Air Quality. 4. 1 Community Air Quality Committee Meeting. 5. Quarterly reporting on project progress and expenditures.	1. Progress report on PM data collection in quarterly report. 2. Details of Library Loan Program activity in quarterly report. 3. Report on conference sessions attended and key learnings included in quarterly report. 4. Committee meeting minutes included in quarterly report. 5. Timely submission of quarterly report to EPA Project Officer.
Q12 (Oct – Dec 2025*)	1. Final data analysis and reporting on T640 FEM particulate matter monitor and collocated meteorological station. 2. Final program analysis, report, and proposal to Tribal Council for continuation of Library Loan Program. 3. Attend EPA Region 9 Tribal Conference and propose presentation on BLR's Enhanced Community Air Quality Monitoring Project. 4. 1 Community Air Quality Meeting with proposal for continuing after grant project ends. 5. Final grant reporting.	1. Report on data collected on PM pollution using T640, including trends and key findings, shared with community and EPA. 2. Details of overall successes and lessons learned through Library Loan Program included in final grant report. 3. Report on conference sessions attended, key learnings, and copy of presentation included in final report. 4. Committee meeting minutes included in quarterly report. 5. Timely submission of all grant reports to EPA.

* final dates determined by grant agreement

Section 5: Quality Assurance Statement

See Separate Quality Assurance Statement Attachment.

Section 6: Programmatic Capability and Past Performance

Past Performance

US EPA Performance Partnership Grant, 2018-2022. $1,216,351 has been awarded under the Indian General Assistance Program, Clean Water Act §106, and Clean Water Act §319. Blue Lake Rancheria's Environmental Director has successfully managed each year's grant amendment, creating workplans and budgets to protect human health and the environment, executing grant tasks on time and keeping reporting and expenditures on track.

California Air Resources Board Community Air Grant, 2019-2023. $98,334 awarded for air quality education activities currently underway utilizing Kids Making Sense program. In classroom grant activities were delayed due to Covid but BLR Project Manager/Environmental Director has adjusted timeline and budget with project officer approval to maintain a successful project. Expenditure tracking and all reporting has been completed on time.

Native American Agriculture Fund, 2020-2022. $50,000 awarded to support food sovereignty work at Blue Lake Rancheria. Environmental Director has tracked the project progress, overseen staff working on the project, and handled expenditure tracking and reporting successfully.

Reporting Requirements

BLR's Environmental Director has 15 years of experience reporting under EPA grants and other financial assistance agreements. She has worked with department staff to stay informed of project progress and whether milestones are being met, and worked with BLR's Finance staff to track expenditures and ensure compliance with fiscal policies. All grant reports have been submitted on time and none have been deemed lacking in any way.

Staff Expertise

Blue Lake Rancheria Tribe's Environmental Programs Department was formed in 1998 and has successfully completed over three million dollars in grant-funded projects on topics ranging from air quality to water quality to solid waste to governance and ordinance development. The Blue Lake Rancheria was recognized by The White House as a Climate Action Champion for our efforts on sustainability and resilience, and has received awards from the US EPA for our green energy leadership and waste reduction efforts.

The Project Manager for the Blue Lake Rancheria's Enhanced Community Air Quality Monitoring Project is our Environmental Director, Michelle Fuller (see attached resume). Ms. Fuller holds a Bachelor's Degree in Marine Biology and a Master's Degree in Social Science (Environment and Community). She has served as tribal Environmental Director for 15 years and received training in air quality monitoring, managing tribal air programs, and reviewing air quality permits, and treatment as a state for air quality. She has a technical background in water quality work and serves as the Quality Assurance Officer for the Tribe's water quality monitoring program.

The Air Quality Technician for this project will be Sylvia van Royen (see attached resume). Ms. van Royen is a recent hire in the Environmental Department and we are seeking training and capacity building for this position. Sylvia earned her Bachelor's Degree in Environmental Science & Management with a minor in Geospatial Information Sciences. She has good experience working with technical field equipment and data collection and management, and is very interested in learning about tribal air quality monitoring.

Section 7: Budget

Budget Detail

See budget table on following page.

Reasonableness of Costs

We have carefully developed the project budget based on accurate information about costs to perform each task, getting estimates from experienced sources where needed. If considered for partial funding, the task breakdown is: Staff Training and Capacity Building ($25,833), PM Monitoring ($64,877), Black Carbon Air Monitoring ($106,164), Filter Sampler for Toxic Metals ($73,096), and Library Loan Program Training and Outreach ($36,239).

Expenditure of Awarded Funds

Project Manager will receive monthly financial reports on this project to track expenditures compared to the budget, and ensure compliance with fiscal policies. Blue Lake Rancheria has an excellent track record for fiscal management and sound policies to guide staff.

Blue Lake Rancheria Enhanced Community Air Quality Monitoring Project Budget 3 year project November 2022-October 2025		
Personnel:		
· **Salary**	Environmental Programs Director; 0.05 FTE (FTE = $78,750) x 3 years	$11,813
	Air Quality Technician: 0.15 FTE (FTE= $49,920) x 3 years	$22,464
	Tribal Librarian: 0.02 FTE (FTE= $41,600) x 2.5 years	$2,080
	Salary Total:	$36,357
· **Fringe Benefits** (based on average of 47% of wages)	Environmental Programs Director	$5,552
	Air Quality Technician	$10,558
	Tribal Librarian	$978
	Fringe Total:	$17,088
	Personnel total:	$53,445
Travel & Training:	*Transportation, lodging, per diem for relevant conferences and trainings.*	
	Air Quality Technician will travel and attend relevant capacity-building trainings through the Institute for Tribal Environmental Professionals. All trainings in Las Vegas estimate $418 airfare, 4 x $120/night accommodations, 5 x $69 per diem, : Addressing Air Quality in Indian Country ($1,243); Quality Assurance Fundamentals ($1,243); Quality Assurance Project Plan ($1,243); and Air Quality System Database Fundamentals ($1,243). Also the National Tribal Forum on Air Quality conference two annual conferences (estimate using current conference info): airfare $578, lodging $96/night x 5 nights, per diem $59/day x 6 days = $1,412 x 2 years = $2,824, and EPA Region 9 Tribal Conference 792 miles x $0.585/mi ($428), lodging $135/ni x 5 nights ($675), per diem $74/day x 6 days ($444)=$1,547 x 2 years = $3,094	$10,890
Equipment:	No specific equipment is identified at this time.	$0
Supplies:	Aethalometer AE33, shetler and data logger rental for 12 months ($20,000); Filter sampler rental for 12 months ($12,000); T640x consumables 12 months ($1,800); data management software & cloud storage ($12,000); 8 AirBeam3 units and paired phones ($2,840)	$48,640
Contractual:	Training on filter sampler and support to BLR staff ($27,212); Aethalometer Instrument Training, setup, and support to BLR staff ($30,328); T640 maintenance support ($9,000); QAPP and SOP Development with BLR staff ($19,573); Data QA, analysis, and technical reporting with BLR staff (filters, aethalometer, and T640) ($65,836); Library sensor training ($17,341)	$169,290
Other:	Registrations (meetings, workshops, trainings), other miscellaneous costs	$500
Indirect Costs:	2022 DOI-approved rate is 20.66%	$23,443.89
	Total Project Costs	$306,209

BLUE LAKE RANCHERIA
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March 22, 2022

United States Environmental Protection Agency
Office of Air and Radiation 6101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Community Partnership in Enhanced Community Air Quality Monitoring

To Whom It May Concern:

As Executive Director of the Tribal Education Agency (TEA) at the Blue Lake Rancheria (BLR), it is my pleasure to partner with BLR's Environmental Programs Department on their Enhanced Community Air Quality Monitoring Project. The Tribal Education Agency (TEA) strives to create programs which promote Native stories and histories, inclusive in all classroom experiences, and reflective of current and Traditional Ecological Knowledge. We have worked with BLR's Environmental Programs Department on two recent projects using air quality curriculum and would certainly utilize the data generated in this enhanced monitoring proposal.

Humboldt County has diverse geographic regions with different land uses and air quality impacts, and the highest percentage of Native American students in California. We will use BLR's Enhanced Community Air Quality Monitoring data to expand our existing air quality work in the community. The quality assured particulate matter data from the T640x will help our education sites evaluate the data they are getting with low cost sensors, and the black carbon and toxic metal data will provide completely new information about air quality for the Blue Lake Rancheria and surrounding community.

I encourage the US EPA to fund this proposal in the full amount requested. If you have any questions, you are welcome to contact me.

Sincerely,

Alison Robbins

Alison Robbins
Executive Director
Tribal Education Agency
arobbins@bluelakerancheria-nsn.gov

Manifest for Grant Application # GRANT13580549

Grant Application XML file (total 1):

1. GrantApplication.xml. (size 24260 bytes)

Forms Included in Zip File(total 6):

1. Form ProjectNarrativeAttachments_1_2-V1.2.pdf (size 16031 bytes)

2. Form SF424_3_0-V3.0.pdf (size 24091 bytes)

3. Form SF424A-V1.0.pdf (size 22632 bytes)

4. Form EPA4700_4_3_0-V3.0.pdf (size 22826 bytes)

5. Form OtherNarrativeAttachments_1_2-V1.2.pdf (size 16003 bytes)

6. Form EPA_KeyContacts_2_0-V2.0.pdf (size 37251 bytes)

Attachments Included in Zip File (total 7):

1. ProjectNarrativeAttachments_1_2 ProjectNarrativeAttachments_1_2-Attachments-1240-Project Narrative_BLR Enhanced Community AQ Monitoring 2022.pdf application/pdf (size 1361882 bytes)

2. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1236-TEApartnerletter.pdf application/pdf (size 191540 bytes)

3. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1234-Quality Assurance Statement.pdf application/pdf (size 757365 bytes)

4. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1235-library_partnerletter.pdf application/pdf (size 339840 bytes)

5. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1238-2022MFuller_resume.pdf application/pdf (size 149778 bytes)

6. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1237-Schatz-Letter-of-support-BLR-AQ-proposal_Mar2022.pdf application/pdf (size 109251 bytes)

7. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1239-Sylvia_vanRoyen_ProgramAssistant_Resume_2022.pdf application/pdf (size 240419 bytes)

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March 22, 2022

United States Environmental Protection Agency
Office of Air and Radiation 6101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Tribal Library Partnership in Enhanced Community Air Quality Monitoring Project

To Whom It May Concern:

The Blue Lake Rancheria (BLR) Tribal Library serves as an important community hub for tribal and non-tribal community members and I am proud to have served as the Librarian for 10 years. It is my pleasure to partner with BLR's Environmental Programs Department on their Enhanced Community Air Quality Monitoring Project.

The Tribal Library serves our community with a variety of resources, with both electronic and bound books as well as homework help and other programs. I am excited to partner with BLR's Environmental Programs Department to create a new library loan program for low-cost air quality sensors. We will reach out to other librarians in the community to invite them to a community meeting and then training on the program so that the sensors can be borrowed by other libraries and reach a broad geographic area. The availability of these low cost sensors, paired with data collected through the Enhanced Community Air Quality Monitoring project, will provide the community with greatly increased understanding of air quality monitoring and air quality data.

I encourage the US EPA to fund this proposal in the full amount requested. If you have any questions, you are welcome to contact me.

Sincerely,

Leia Pollard

Leia Pollard
Librarian
Blue Lake Rancheria Tribal Library
library@bluelakerancheria-nsn.gov